

AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph beginning on page 4, line 11, by adding the following:

FIG. 5 is a drawing which shows, from an oblique perspective, an alternative embodiment of the invention which clamps around the femur below the area of resection, and attaches to an elongated fastener oriented generally lengthwise with respect to the implant;

FIG. 6 is a drawing which shows how the invention could be applied to a humeral prosthesis; and

FIG. 7 is a drawing which shows how the invention may be applied to knee arthroplasty.

Please amend the paragraph on page 9, line 21, by adding the following:

Figure 5 illustrates an alternative embodiment of the invention, seen generally at 502 from an oblique perspective. In this case, a prosthesis 504, which may have a threaded bore along an axis 508 to receive a threaded fastener such as a bolt 506, is physically coupled to a first structural element 520 which slidably engages with a collar 530, and which may be tightened in place with a manual fastener such as thumb screw 532. Other types of fasteners, including those requiring tools such as set screws, may alternatively be utilized for this purpose. In this embodiment, the prosthesis 504 may be rotated about the axis 508 with the bolt 506 in a slightly loosened condition, and then tightened when a desired angular rotation is achieved. A score mark 522 may be used in conjunction with score marks 524 to provide an indication of this desired angular rotation

for future reference. Preferably, score marks are provided on the underside of member 520 as well in the vicinity of the attachment to the prosthesis, to assist in maintaining the desired rotational configuration once the bolt 506 is tightened. Prosthetic devices having a threaded bore along axis 508 are available from the Zimmer Company, though in the event that such a feature is not provided for, connection may be made to the prosthetic element itself as disclosed elsewhere herein, rendering this threaded bore convenient but not necessary to the invention.

Preferably in this embodiment a set of score marks 526 are also provided on the member 520, such that with the member 520 being moved back and forth to adjust the lateral or transverse positioning of the implant, the fastener 532 may be used to lock the configuration in place, with the marks 526 being used to maintain a visual indication of the desired lateral configuration. Attached to collar 530 is a downwardly extending member 540, which is received by a collar 544 having a manual adjustment device 546. The member 540 may also include markings 542, such that, as the element 540 is moved up and down to adjust for the axial length of the prosthesis, fastener 546 may be locked with the score marks 542 providing a visual indication.

The collar 544 is attached to a clamp 550, which is rigidly attached to the outer surface of the femur through manual fasteners 552 and 554. As a further optional convenience, the collar 544 may be rotationally variable, and locked into place along with member 540 with manual fastener 546, with optional score marks 560 being used as a visual indication of this configuration, if so desired.

Although the various embodiments of this invention may be used to properly position a trial implant prior to the positioning of a final prosthetic element, it should be

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apparent that in all cases, the device such as 504 in FIG. 5 is assumed to be the final implant itself, thereby eliminating the need for a trial. Particularly if the various positioning elements of the invention are sufficiently low in profile, the entire assembly, including those shown in the figures, joint reduction may be carried out, with the various fasteners being adjustably and rigidly clamped, with the final implant positioned in place and rigidly connected thereto. Following this procedure, the properly positioned implant may be removed from its reduced configuration and cemented. According to the invention, depending upon the circumstances, the prosthesis may be cemented in situ, with the various positioning members according to the invention remaining locked in place, or, alternatively, one or more of the fasteners may be loosened, with the implant and, perhaps, other fasteners attached thereto, removed and repositioned once cement has been injected into the intramedullary canal.

For example, referring to the embodiment of FIG. 5, fastener 546 may be slightly loosened, with the prosthesis 504 and members 520 and 540 rigidly attached thereto being temporarily removed, the cavity filled with cement, and the prosthesis with members 520 and 540 reinserted, with member 540 being reinstalled into collar 544, utilizing the score marks 542 to ensure that fixation will take place at a proper and desired orientation upon re-tightening of the fastener 546. It will also be apparent that in the embodiment of FIG. 5 and others disclosed herein, that if the assembly attached to the femur and to the prosthetic element through using one or more structural elements according to the invention is sufficiently rigid, positioning of the final implant may be stabilized in three dimensions (for example, rotationally, transversely, and axially--i.e., with respect to the coronal, sagittal and transverse planes).